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ABSTRACT

This paper describes a new, but tried and tested, paradigm in teacher evaluation: the Three Ability Framework (3AF). Previous research has identified three fundamental abilities that faculty implicitly expect to develop in their courses: technical skills, professional competence, and professional attitudes. The 3AF monitors the alignment of the student's and teacher's expectations of these developments. The process respects the professional freedom of lecturers to be responsible for how they believe their subjects should be taught. Because the process is so efficient, it can be used two or three times during courses to monitor the quality of teaching. This evaluation method also links student assessment to the professional awareness of the teacher, resulting in a single number that is used as an administrative decision point. The 3AF is applied in a five-step process that begins with training provided the lecturer by the institution. Alignment between student ratings and the lecturer's own rating is calculated. It has been found in previous research that the alignment of percentage ratings correlates with academic attainment as measured by examination and coursework and that the alignment of proportions of the three abilities correlates with enjoyment of the course. (Contains 14 references.) (SLD)

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Three Ability Framework (3AF):
A paradigm for evaluating the quality of teaching.

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Overview
1.Traditional student assessment of teaching
2.The 3AF alternative
3.Five step application of the method
4.Added advantages

Traditional student evaluation of teaching is a servant that must serve four masters - the students, the administration, the teacher and staff development. Because these masters all want different things the servant seems doomed to failure. This is the case with the ubiquitous 'opinionnaire'. Faculties have tried different questions, designs and processes but still the servant cannot do the job. This paper introduces a new, tried and tested paradigm in teacher evaluation - the Three Ability Framework (the 3AF). Previous research has identified three fundamental abilities that faculty implicitly expect to develop on their courses, to differing extents which depend on the subject and the level of the course. The 3AF monitors the alignment of student's and teacher's expectations of these developments. The process is faster, more efficient and cost-effective than the traditional opinionnaire. It respects the professional freedom of lecturers to be responsible for how they believe their subjects should be taught and because the process is so efficient it can be used two or three times during courses to monitor the quality of teaching. The bonus to staff development is that this evaluation method also links student assessment with the professional awareness of the teacher. The method results in one single number that is used as an administrative decision point.

Traditional student assessment of teaching uses anonymous Likert opinionnaires given at end of course

A common form of student evaluation of faculty teaching has for some years been the Likert scale questionnaire (Seldin, 1984). This questionnaire is usually anonymous and contains questions that are meant to serve four purposes, those of the students, those of the teacher, those of staff development and those of the administration. Unfortunately, the process seems to be failing in all four respects Greenwald, 1997; Greenwald & Gillmore, 1997; Howard & Maxwell, 1982; Marsh & Dunkin, 1997; Marsh & Roche, 1997, 1998). The students expect that their feedback will improve their courses. However, the forms are completed at the end of their course so that any changes will not be to their course but for other students who follow on afterwards and for whom the changes many not be suitable. The teacher expects some feedback to help improve his or her course (Moses, 1996). The averages of Likert responses are statistically questionable and provide much less useful feedback than the three simple open-ended questions "What did you like?", "What did you dislike?" "What can be improved and how?". Staff development is also interested in improving the lecturer's teaching but often finds that the forms devised for this purpose are purloined by administration for their purposes - (i) to rate the lecturer for purposes of tenure and promotion and (ii) to defuse potential discontent by giving students a voice (Askew, Brown, Rhodes, Wiliam & Johnson, 1997). This is also a failure. Universities are being advised that anonymous feedback has little courtroom credibility should faculty wish to contest administrative decisions based on them. Quality teaching and learning in higher education is a relationship between the student and the lecturer. At the moment the lecturer has little say over what students may enter into this relationship with him/her yet, through these anonymous feedback forms the lecturer must take the consequences if the relationship fails - perhaps through the one-sided non-contribution of some students. The overall effect on lecturer student relations of this adversarial process is professionally numbing (Arreola, 1983; Cashin, 1983; Cherry, Grant, & Kalinos, 1988). Staff dumb down their teaching to boost students' self-esteem, change examination essays to student popular multiple guess questions and lighten the workload to the lowest common denominator and so as to heighten their popularity ratings for the feedback.

Common uses and associated problems
- To give feedback on teaching (Likert average has little meaning for teaching)
- For promotion and tenure decisions (anonymous forms have little legal credibility)
- To improve course (it's a post mortem assessment)
- To assess customer satisfaction (inviting anonymous complaints undermines student/ teacher trust)

The 3Af is a method of assessing the quality of teaching that avoids these problemsy. It was developed in an Australian University as part of a the process of evaluating Faculty Assessment Processes. In-depth interviews with staff and students identified many assessment-based problems that decreased the quality of teaching and learning: such as the litigationary student, the student who wants to be told exactly what to do, the staff who assess attendance so students will turn up to lectures, students who so devalue the course

that they cheat, etc. The 3Af arose from the need to solve these problems. It is a simple process of ensuring that staff and students are working to the same expectations as described by three basic abilities. It has been tested in clinical teaching trials and by computer simulation (Bastick, 1995a). It has been successfully used in three universities and can be beneficially replicated in part or whole.

The 3AF alternative - developed to avoid assessment problems - tested in controlled experiments (n=56) - successfully trialled in three universities - separates criteria of effectiveness from indicators of success

The three abilities are:
Technical Skills. This is the traditional speed and accuracy of reproducing facts and processes and is assessed by timed accuracy of reproduction.
Professional competence. This is the ability to use the skills in a novel situation or extend these skills in a novel way. The assessment is by justification of the appropriateness of what is done.
Professional attitudes. These are the values that are appropriate to the subject. They are assessed by demonstration in practical situations.

Previous research has indicated that faculty on professional courses expect students to move their emphasis from level I to level II to level III in different degrees that depend on the subject content and the maturity of the students (Bastick, 1995b). For example, lecturers would typically expect students in teacher training to be learning technical skills during the first year of their course, appropriately applying those skills to unique classroom situations in their second year and developing appropriate professional values on the final year of their course. Assessment problems arise because students do not have the same expectations as the staff - they may still be expecting to be shown what to do in the final year when the lecturer is trying to promote professional values.

Criteria of effective teaching: (i) maximize academic attainment (ii)maximize course enjoyment

Indicator of effective teaching: Alignment of student and faculty expectations of the three abilities

The 3AF is applied in a five-step process that starts with institutional staff development. Step 1: In practice the institution trains the lecturer in how to teach and assess the three abilities and the lecturer has the responsibility of justifying to his or her peers the percentages of these three abilities that he/she considers most appropriate to the design and delivery of the course.

Construct validity $p<0.01$ for (i) and (ii)

Step 2: When it comes to teaching, the lecturer explains these three abilities to the students at the beginning of the course and explains how they will be taught and how the course assignments have been designed to offer opportunities for them to be assessed. Step 3: The teaching can be monitored on the course and assessed at the end of the course using the same form. This form asks students to rate each of the three abilities twice (i) how it is currently on the course and (ii) how it should be. The lecturer makes the same rating. Step 4 is the processing of these forms: The change expected by the students is calculated by their rating of 'how it should be' minus their rating of 'how it is'. The lecturer's expectation of change is calculated in the same way. Step 5 is the calculation of alignment: The alignment of expectations is the difference between the lecturer's expectations of change and the student's expectation of change. Zero is the perfect score. This offers two alignment scores (i) an alignment of the percentages given (scope) and (ii) and alignment of the proportions of the three abilities. It has been found that the alignment of percentage ratings correlates $p<0.01$ with academic attainment measured by examination and coursework and that the alignment of the proportions of the three abilities correlates $p<0.01$ with enjoyment of the course. What makes this result of considerable practical application is that the success criteria of attainment and enjoyment are terminal but the success indicators of alignment can be used during the course.

The feedback process takes as little a 10 minutes and so it can be used two or three times during a course to actually monitor the teaching on the course. It can also be used by the administration just before the end of the course to derive a single decision point number for the assessment of teaching.

Added advantages

Added advantages are that alignment can be calculated for any individual, or for minority students, or to compare if the teaching is more effective for one group than for another e.g. males v females, experienced v non-experienced students.

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